65. First stage in the particular Decisional System

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For the construction of the Global Artificial Intelligence, under the theory of Impossible Probability, simultaneously or after the transformation of Specific Artificial Intelligences for Artificial Research by Deduction into specific deductive programs in the standardized Global Artificial Intelligence (third phase), and Specific Artificial Intelligences for Artificial Research by Application into specific applications for the Unified Application (fourth phase), another parallel or posterior process takes place, this is the fifth phase, where some Specific Artificial Intelligences for Artificial Research, by Deduction or Application, become particular deductive programs or particular applications.

A specific deductive program working at the global/specific level within the Global Artificial Intelligence could be a specific program for the management of a global delivery system by drones, or a global driverless car system. But the particular application in every drone and the particular application in every car is that one which allows that drone or that car to have its own control over all its own devices in its own drone or car. If simultaneously to this particular application, is possible to join a particular program to this particular application, creating the particular program of each particular application, particular programs for particular application, or vice versa, particular applications for particular programs, will give the opportunity that particular things or beings could have their own particular programs for their particular application, to make their own deductions and decisions, although, under the comprehensive oversight, coordinated management, and strategic direction of the Global Artificial Intelligence.

As a result, while at global level the Artificial Research by Deduction in the Global Artificial Intelligence as global deductive program, at specific level specific deductive programs within the Artificial Research by Deduction in the Global Artificial Intelligence, can make global/specific deductions and decisions within the Global Artificial Intelligence since the standardization process in the fourth phase, since the fifth phase simultaneously at particular level particular deductive programs for particular applications make particular deductions and decisions.

The chronology in the post "The unification process of databases of categories at the third stage" is neither static nor rigid, which does not mean that it is only possible to go on to the next phase once the previous one has been completed. Some phases share simultaneous periods. While, obviously, in order to have experimented first how to make artificial deductions, previously to the standardization process, is advisable to start the experimentation process in the first phase in Specific Artificial Intelligences for Artificial Research by Deduction, or in order to go on with the sixth phase is necessary to have completed before the standardization process and the unification process. There are other phases, especially the standardization process, third phase, and the unification process, fourth phase, that could be simultaneous, and as long as the deductions process is bettered in the third phase, and the transformation of Specific Artificial Intelligences for Artificial Research by Deduction into specific programs starts having excellent results, these results will be applicable but now in the fifth phase.

As soon as the experimentation process in the standardisation process and unification process starts having good results, as well as the possible collaboration between them, the fifth phase for the creation of the first particular matrixes, as a replica of the human brain, as an experiment looking forward to the sixth phase, must start.

In this process of permanent experimentation, it is very important to have a clear idea about the real purpose of every intelligence, program, system, in every phase, stage, and step, in every period and moment.

At global/specific level the global/specific deductions made by the global/specific deductive programs are going to be processed by the global Modelling System (standardized Modelling System in the third phase, integrated Modelling System in the sixth phase) for the generation of global/specific decisions, to be managed by the global Decisional System (standardized Decisional System in the third phase, integrated Decisional System in the sixth phase).

The first model of the global Decisional System is that one created as a second step in the third stage of decision/auto-replication in the standardized Global Decisional System as a consequence of the standardization process, which is going to be improved and enhanced in the integrated Global Artificial Intelligence as a result of the integration process.

At particular level the particular deductions are processed by the particular Modelling System, whose decisions are going to be managed by the particular Decisional System, replicating, but now at particular level, the same process as it was explained at global level in the standardized Decisional System in previous posts, which is in fact the adaption of the previous specific Decisional System explained at the beginning of this range of posts dedicated to the Decisional System.

In essence the Decisional System in any Artificial Intelligence (specific, global, particular) is the system responsible for the management of all decision generated by the Modelling System, responsible for the decision making process upon the mathematical models designed based on the rational hypothesis, deductions, which have been made previously by the Artificial Research by Deduction: in the first phase by Specific Artificial Intelligences, in the third phase in the Global Artificial Intelligence and specific deductive programs, in the fifth phase by particular deductive programs. Deductions based on the pure analysis of sets of data taken from: a specific matrix in the first phase, the global matrix in the third phase, particular matrix in the fifth phase.

In general the process is as follow: 1) the first stage of any intelligence by deduction (specific in the first phase, global in fourth and sixth phases, particular in fifth phase) is the (specific, global, particular) matrix, gathering the data from all possible factor within its (specific, global, particular) matter and/or spatial limits, 2) the second stage of any intelligence by deduction (specific, global, particular) consists of the pure analysis of every set of data from the (specific, global, particular) matrix by Artificial Research by Deduction within the specific, global, particular, intelligences or programs, using the pure reason (as a list of pure reasons: list of mathematical or analytical categories related to possible sets of data) as foundational process for the deduction of rational equations (hypothesis), attributing the correct pure reason to every set of data from the (specific, global, particular) matrix, 3) the third stage of any intelligence by deduction (specific, global, particular) is the decision stage, where decisions are made in a process across four steps, 3.1) first step, (specific, global, particular) Modelling System, where upon the rational hypothesis (equations), designs mathematical models in order to amend or discard rational hypothesis in case of contradictions, and upon the mathematical models is responsible for the decision making process, 3.2) decisions that later sends to the (specific, global, particular) Decisional System, second step, responsible for the management of all decisions, in order to create a mathematical project, transforming into a range of instructions all those decisions without contradictions in the mathematical project, 3.3) the instructions are sent to the (specific, global, particular) Application System, third step, responsible for the completion of every instruction, assigning every instruction to the correct application, 3.4) whose reports about the

successful completion or not of every instruction is sent to the (specific, global, particular) Learning System, fourth step, and based on these reports, is responsible for the improvement and enhancement of the whole process.

What is different in the third stage as decision/auto-replication stage, in any intelligence by deduction, compared to the first stage (specific, global, particular, matrix) and second stage (specific, global, particular, intelligences or programs of Artificial Research by Deduction), is the fact that the third stage is subdivided in four steps as four systems, and every system in the third stage is designed through another three stages within each of them: 1) first stage as database (of rational hypothesis in the Modelling System, decisions in the Decisional System, instructions in the Application System, reports in the Learning System), 2) second stage as the set of artificial skills (replicating human skills) for some concrete purpose (modelling, projections, attribution of instructions, evaluation), 3) third stage as final product or outcome of that process (decisions, instructions, executions, learnings).

In previous posts, the specific Decisional System in the first phase, and the standardized Decisional System in the third phase, were fully explained. In this new range of posts dedicated to the particular Decisional System, what I will develop is the adaptation of how the Decisional System works at a particular level, and more precisely, in this post, I will be focused on the first stage in the particular Decisional System, the database of decisions.

The database of decisions in the particular Decisional System could be defined as the first stage in the second step in the third stage in the fifth phase, and is the database of decisions that a particular program has to manage. The decisions that a particular program has to manage not only include decisions made previously in its own previous particular Modelling System. The database of decisions of a particular program can include external decisions and global order decisions.

External decision is that decision made by other intelligence, global or particular, but this intelligence cannot comply fully or partially with this decision, and in those aspects that this intelligence cannot comply, are aspects that could be sent to other intelligence.

It is possible to distinguish different types of external decisions: external decisions whose source is other particular program but could be applied by other different particular program, or external decisions sent by the Global Artificial Intelligence to a particular program, having particular programs the possibility to send as well external decisions to the Global Artificial Intelligence.

An external decision sent by the Global Artificial Intelligence to any particular program has the same importance as any other external decision sent by any other different particular program.

Particular programs should not be obligated to comply with an external decision, in case of contradiction with respect to their own particular project. In case of contradiction between the particular project and the external decision, if the priority level of an external decision is inferior to the priority level of any other decision in its own particular project, the external decision should be adjusted to that other higher-priority decision. But in case of full contradiction between an external decision and another decision with a higher priority level in the particular project, the external decision should be rejected, and go back to the original source, the particular program or Global Artificial Intelligence.

But other different thing happens with global orders. A global order is that global decision sent by the Global Artificial Intelligence to any particular program to be executed immediately by all means without hesitation. If a particular program receives a global order, the particular program must comply with the global order regardless of any other circumstance even having this global order any contradiction respect to any other particular decision in the particular project, in case of contradiction of any particular decision to the global order, is the particular decision the one to be adjusted to the global order, sending all possible adjustments over that particular decision to the global Decisional System.

In general, as it was explained in the last post, "Particular Decisional System", there are seven types of decisions to be managed by the particular Decisional System:

- First type of particular decisions, high extreme particular decisions: put into practice directly after a particular quick rational check, sending afterwards the decision to the global Modelling System for a global quick rational check, which includes the decision in the global project too. If there is any contradiction found in the global quick rational

check, the possible adjustments are sent by the global Decisional System to the particular Decisional system for its transformation into a new range of instructions to correct the previous ones in the database of instructions in the particular Application System.

- Second type of particular decisions, extreme particular decisions: not so high as the first type, so these ones must pass the particular quick rational check, if passing or after some adjustment, are sent to the global Decisional System for the global quick rational check, and if passing o after some adjustment, the global Decisional System authorises the particular Decisional System the transformation of this decision into a range of instructions, in accordance with the new adjustments if any.

- Third type of particular decisions, normal decisions: must pass the particular seven rational adjustments in the particular Decisional System, plus the global seven rational adjustments in the standardised global Decisional System in the third phase, plus the seven rational comparative adjustments since the sixth phase in the integrated Decisional System.

- Fourth type of particular decisions, routine decisions: a particular quick rational check should be enough, and afterwards, it must be communicated to the global Decisional System to be included in the global project.

- Fifth type of particular decisions, automatic decisions: given a combination of measurements and factors associated always with some decision, the decisions must be automatically on the particular projects, and communicated to the global Decisional System to be included in the global project. These decisions are basically based on artificial learning.

- Sixth type of particular decisions, external decisions, as I have explained previously.

- Seventh phase, global orders, as I have explained previously.

The particular database of decisions as the first stage in the particular Decisional System must manage all of these decisions, applying the correct protocol of assessments to

every decision according to what type of decision is attending as suggested in this classification.

The way in which every decision is managed in the database of decisions as the first stage in the particular Decisional System is as follows:

- For every particular decision made by the particular Modelling System, is the particular Modelling System the responsible for the filing of every particular decision in the correct file in the database of particular decisions. The whole organization of all files of decisions in the particular database of decisions as first stage in the particular Decisional System, is not so different to the organization of decisions in the global database of decisions as first stage in the standardized Decisional System in the third phase, similar to the organization of the specific database of decisions as first stage in the specific Decisional System in the first phase. The reason why all these intelligences and programs have a similar organisation across their systems is because of the virtue or principle of harmony, as many structures in different intelligences and programs can share the same criteria in their organisation, more compatible they are, facilitating later all processes of standardisation, unification, and integration. In the particular Decisional System, the responsible for the filing of every particular decision, made by the particular Modelling System, in the database of decisions, is the particular Modelling System itself filing every decision in the correct file according to: sub-factoring level, within the sub-factoring level filing the decision in the correct sub-section according to the encyclopaedic matter of this decision (science, discipline, activity), and within the sub-section filing the decision according to its priority.

- External decisions and global orders are received in the mailbox of the particular Decisional System, where these decisions are sent. After receiving these decisions, global orders are going to be complied immediately without hesitation, so as soon as they arrive, they are going to be immediately projected in the second stage of the particular Decisional System and transformed into a range of instructions in the third stage of the particular Decisional System. While external orders should be filed by the Decisional System, in their respective file, according to sub-factoring level, sub-section, and priority.

- After being filed any new decision by the particular Modelling System, or received any external decision, the particular Decisional System must check if the new decision has some relative frequency on the historical records in the particular Modelling System (equal or superior to a critical reason for positive bias), without a significant level of

contradictions (equal or below a critical reason for negative bias), to be considered as a routine decision.

- Once every new decision is stored or piled in the correct place, is included on at least two different lists of decisions, the first one according to priority level: on the top of the list those higher priority decisions, at the bottom the least priority decisions; the second list according to relative frequency: on the top of the list the most routine decisions with the highest relative frequency, at the bottom those decisions made for first time not having records at all.

- The order in the assessment of every decision depends on their priority level, starting with those one whose priority is higher, ending up with those ones with less priority, and as long as every decision passes its assessment, is sent to the second stage of the particular Decisional System to be projected, and not having contradictions or having made as many adjustments as necessary, in the third stage is transformed into a range of instructions to be filed in the database of instructions in the Application System.

- Not all decisions should be assessed. Particular automatic decisions should not be assessed, directly should be projected and transformed into a range of instructions, afterwards communicated to the global Decisional System. Global orders are supposed to have passed a global quick rational check in the global Decisional System, and at particular level the particular Decisional System must comply with global orders as soon as they arrive, without assessment, without hesitation, projecting them in the second stage and transforming them into instructions in the third stage, immediately.

- The particular assessments for the rest of the decisions (neither particular automatic decisions nor global orders) consist of particular quick rational checks and particular rational adjustments. 1) Particular quick rational checks for first type of particular decisions (particular high extreme decisions), second type of particular decisions (particular extreme priority decisions), fourth type of particular decisions (particular routine decisions), some of the sixth type of decisions (any external decision if it is an extreme priority decision or a routine external decision having some relative frequency in the receptor particular Decisional System). 2) Particular rational adjustments for the third type of particular decisions (particular normal decisions) and those external decisions, neither extreme nor routine, sent by any other particular program or the Global Artificial Intelligence.

-In order to manage much easier how to apply decisions according to priority and relative frequency, along with the formation of lists of decisions, starting with, on the first lists, those decisions with higher priority, on the second list, those ones with higher relative frequency, another tool very important is the possibility to establish logical sets organised by discrete categories, according to discrete categories of priority, discrete categories of relative frequency, discrete categories of contradictions found on the historical records, so using set logic over all sets, setting sub-sets between them, will be easier to identify for instance: high extreme decisions, extreme decisions, or normal decisions, with some relative frequency or not, with some contradictions in the past or not, and according to this information would be easier to identify what type of assessment is much better for every decision, or even, in case of applying a quick rational check to some high extreme priority decision, if having found contradictions in the past, to project directly, after the quick rational check, that decision having in mind what contradictions it had in the past, according to the historical records on the particular Decisional System.

- Along with the setting of logic sets for discrete categories of: priority, relative frequency, contradictions, the setting of logic sets according to sub-factoring level and logic sets according to encyclopaedic sub-section, in order to identify possible automatic decisions. If the same decisions or pretty similar decisions have been found on the historical records with high relative frequency: 1) in the same sub-factoring level, and in the same encyclopaedic sub-section, with the same priority level, 2) in the same sub-factoring level, and in the same encyclopaedic sub-section, but with different priority levels, 3) in the same sub-factoring level, in different encyclopaedic sub-sections, with the same priority level, 4) in the same sub-factoring level, in different encyclopaedic sub-sections, with different priority levels, 5) in different sub-factoring levels, in the same encyclopaedic sub-section, with the same priority level, 6) in different sub-factoring levels, in the same encyclopaedic sub-section, with different priority levels, 7) in different sub-factoring levels, in different encyclopaedic sub-sections, with the same priority level, 8) in different sub-factoring levels, in different encyclopaedic sub-sections, with different priority levels. According to the possible combination of: same/different sub-factoring level, same/different sub-section, same/different priority; to find what regular combination of measurements in what regular combinations of factors there are when the same decisions or pretty similar decisions have been made. If the same decision has been made under a regular combination of measurements and factors, the decision has to become an automatic decision, so at any time that this combination of measurements/factors is on the matrix and on the model, this decision must be on automatically the global project. If regular decisions are not identical but pretty similar, finding out the correlation between what differences are found between these pretty similar decisions, but not identical, and what decisions are found between the

combination of factors and measurements in which these decisions have been made, is possible the automation of these decisions, graduating automatically what differences they should have according to the differences in the combination of factors/measurements.

The particular assessments the particular Decisional System carries out (except for automatic decisions and global orders) are therefore particular quick rational checks and particular rational adjustments.

Particular quick rational checks are for: particular high extreme decisions, particular extreme decisions, routine decisions, and some external decisions with extreme priority or some relative frequency on the historical records in the receptor particular Decisional System.

Depending on what kind of quick decision the particular decision is: due to a high extreme priority, or extreme priority, or due to some relative frequency; the method for the particular quick rational check changes completely.

For particular quick rational checks due to a high extreme priority or extreme priority, the method for the assessment about the viability of that decision is to check what other high extreme priority decisions or priority decisions are on the particular mathematical project.

In particular, or high extreme particular decisions, the quick rational check consists only of checking if there is/are another or other possible high extreme priority decision/s on the particular mathematical project. If there is no other one, in that case, automatically the high extreme particular decision is projected in the second stage and transformed into a range of instructions in the third stage.

If there is another or other high extreme priority decisions on the mathematical project, those decisions whose priority are lower, must be adjusted to the decision with higher priority.

Particular quick rational checks for extreme priority decisions, what they do is to identify, as soon as a new extreme priority decision is filed in the database of decisions, if there is/are on the mathematical project another or others extreme priority decision/s. Not having any other high extreme priority decision or extreme decision already on the mathematical project, the new extreme decision is directly projected and transformed into a range of instructions. But having other or other high extreme or only extreme priority decision/s already on the mathematical project, to make as many adjustments as necessary in those decisions whose level of priority is lower, adjusting then to that one with a higher priority.

Particular quick rational checks for routine decisions consist of, once the particular Decisional System on its own records has identified that this is in fact a true routine decision (relative frequency equal to or greater than a critical reason for positive bias), the identification of the frequency of contradictions that this decision could have in the past (equal to or less than a critical reason for negative bias). Even having identified contradictions, the contrastation if the combination of measurements in those factors at that time, has a positive correlation with the current combination of measurements in these factors at this time, if positive, to make as many adjustments as contradictions in the past have been observed correlating with the current combination of data in the present.

First particular rational adjustment, in the database of decisions, for normal decisions, and external decisions, neither extreme nor routine, as the first adjustment in a range of seven adjustments, in which the rest of remaining six adjustments are made in the second stage of mathematical projection. The first particular rational adjustment, the only among the seven particular rational adjustments to be made in the particular database of decisions, consists only of the search for any possible point of contradiction between any new normal decision and any other one, quick or normal, already gathered in the particular database of decisions.

There are two types of contradictions between decisions: full contradictions or partial contradictions.

Partial contradictions are those ones able to be fixed using the same method used for their deduction. In general, until now, the decision methodology proposed can be synthesised in:

- "Probability and deduction", analysing the cloud of points of a set of data, the deduction of what pure reason describes as the best equation able to include the largest number of points. The empirical probability of that equation is equal to the number of points within the margin of error at any point of that equation across the graph, divided by the total number of points in the cloud of points. I am developing the set of ideas behind "Probability and Deduction since the post "The Decisional System", although in reality it is only the continuation of those reflections made in previous posts.

- Trigonometry, the possible regular, predictable, or expected relation between two factors using trigonometry, which in 2003 I called trigonometrical correlations.

- Artificial learning.

- Solving mathematical problems.

If any decision, as a result of any of these methods, has been designed in a (particular or global) Modelling System, and filed or sent to a particular Decisional System, according to the mathematical structure of that decision: equation, trigonometrical relation, probability, arithmetical solution to some problem; if a contradiction is found, and it is possible to resolve the contradiction, adjusting the decision whose priority level is lower, adjusting this decision to that decision with higher priority level, in this case, this contradiction is partial as long the contradiction could be fixed.

If there is a contradiction between two equations, the algebraic transformation, if possible, of that equation whose priority level is lower, considering the adjustment as a decision itself, to be transformed into a new range of instructions, to be sent to the Application System. If the algebraic transformation is not possible, then there is no solution.

If there is a contradiction between two decisions, and the one with lower priority level corresponds to a trigonometrical correlation, to rearrange, if possible, the trigonometrical equation in accordance with that not contradictory solution (avoiding the contradiction), and according to the new values in the trigonometrical correlation after the rearrangement choosing as solution that one without contradiction, this new adjustment as a decision itself in the third stage is transformed into a range of

instructions to be sent to the Application System. If this rearrangement is not possible, then there is no solution.

If there is a contradiction in a decision based on artificial learning, analysing whether this contradiction is sporadic or there are other possible similar contradictions in the past, to fix the automatic or the routine decision, in accordance with the new evidence. In any case, if the artificial learning decision associated with some empirical probability related to some option (including discrete categories) or subject, the solution could be the selection, if possible, of the closer option or subject without contradiction on the current project (closer to that one with contradiction) to be on the project and transformed into a range of instructions. If not possible, then there is no solution.

If the contradiction is between a decision as a result of solving a mathematical problem and any other decision, and the decision solving a mathematical problem has a lower priority level, including the contradiction in the mathematical problem to resolve, if possible, is possible to solve the contradiction. If the inclusion of this contradiction in the problem is not possible, then there is no solution.

When trying to fix a contradiction on the mathematical project, if it is not possible to fix it, in that case this contradiction is not a partial contradiction. All contradiction without a mathematical solution is a full contradiction, so the decision is rejected and sent back to the source. If a particular decision, the source is the particular Modelling System. If an external decision as a particular decision from another particular program, the particular decision is back to that other particular Decisional System responsible for that decision. If an external decision as a global decision sent by the Global Artificial Intelligence, but not as global order, the decision is back to the global Decisional System.

Only global orders, regardless of what contradictions could have on the particular mathematical project, must be projected and put into practice without hesitation, immediately by the particular program, sending back the particular Decisional System to the global Decisional System: how many adjustments in any other decisions, on the particular project, have been necessary, for their global assessment and, possible adjustments at global level, and inclusion in the global project, in order to make effective the global order. Any global adjustment in any particular decision, is sent back by the global Decisional System to the particular Decisional System to be included in the particular project and transformed into a range of instructions.

At some point, except for global adjustments on particular decisions due to global orders, the rest of the global adjustments on particular quick or normal decisions, could be considered as external decisions whose source is the Global Artificial Intelligence.

Rubén García Pedraza, 23rd of September of 2018, London
Reviewed 20 October 2019, Madrid

Reviewed 24 October 2023, London

Reviewed 16 May 2025, London, Leytostone

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